

FLIGHT

The
**AIRCRAFT
ENGINEER
&
AIRSHIPS**

First Aeronautical Weekly in the World. Founded January, 1909

Founder and Editor : STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM

No. 1028. (No. 36. Vol. XX.)

SEPTEMBER 6, 1928

Weekly, Price 6d.
Post free, 7d.

Flight

The Aircraft Engineer and Airships

Editorial Offices : 36, GREAT QUEEN STREET, KINGSWAY, W.C.2.

Telephone : Holborn 3211. Telegrams : Truditur, Westcent, London.

Annual Subscription Rates, Post Free.

United Kingdom .. 30s. 4d. Abroad .. 33s. 0d.*

* Foreign subscriptions must be remitted in British currency.

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"FLIGHT" PHOTOGRAPHS

To those desirous of obtaining copies of "Flight" photographs, these can be supplied, enlarged or otherwise, upon application to Photo. Department, 36, Great Queen Street, W.C.2.

DIARY OF CURRENT AND FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in this list—

1928

Sept. 8-16 American National Air Races, Los Angeles, Cal.

Sept. 10-21 French International Light 'Plane Meeting at Orly

Sept. 12 Italian International Meeting

Oct. 7-28 International Aircraft Exhibition, Berlin

Oct. 8 Aero Golfing Soc.—Team Match v. Stage G.C.

Oct. 24 Aero Golfing Soc.—"Cellon" Challenge Cup

Dec. 3-8 International Aeronautical Exhibition, Chicago, Ill.

Dec. 12-14 International Conference on Aviation, Washington, U.S.A.

1929

Oct. 31 Guggenheim Safe-Aircraft Competition Closes

EDITORIAL COMMENT



WHEN civil aviation commenced shortly after the end of the war, use was made of military types of aircraft more or less (often less!) converted for the peaceful purpose of carrying civilian passengers instead of the military crew. That the machines were not very economical to run is not surprising. Gradually the converted military types gave way to machines designed for what we in those days imagined to be commercial requirements. The progress was, not unnaturally, very slow, as there was little enough encouragement to firms to spend money on developing new types the demand for which was very problematic. However, progress was undoubtedly made, but mainly, and quite correctly, in the direction of greater safety and reliability rather than increased economy in operation. The phase through which we passed was from single-engined to twin-engined, and comparatively recently from twin-engined to three-engined types. Again this was chiefly a result of our search for safety and reliability. And it is well to bear in mind that we can claim with a very large measure of justification that these aims have now been fulfilled. British air lines have for years been most reassuringly free from serious accidents, and the degree of reliability attained has been most encouraging.

Before "commercial aviation" can correctly be so called, however, it is necessary to produce aircraft types which, without sacrificing the safety and reliability of existing machines, will be economical enough to enable them to be operated without the need for a Government subsidy. Safety and reliability having been attained, economy must obviously be the next consideration.

If we come to examine the subject, it is found that, right from the earliest days of commercial flying, there has been a tendency—in fact it is more than a tendency, it is almost universal practice—to use any particular machine for all sorts of work. It may have been designed originally as a passenger carrier, but with a fairly large luggage compartment. If a

sufficient number of passengers was forthcoming, well and good. If not, there were usually some goods that were awaiting transport, and it was not unnaturally decided to substitute them for the passengers who failed to materialise. Usually there were also a few mails to be carried; perhaps a few parcels were added, until the machine was somewhere near its full load. One cannot blame those operating the machines for doing this. They were, and are, faced with the problem of incurring as small losses as possible, and merely did what was right and proper under the circumstances. But using machines in this fashion for any sort of load that happened to present itself was not, and is not, the best way to attain commercial economy.

The time has come when we *must* design for specific purposes. An aircraft originally designed for passenger carrying, and to give at least such a measure of comfort as is now customary, is not, even with its chairs removed, likely to be the most economical freight carrier which it is possible to produce. A passenger machine must be able to fly on its route with a considerable degree of reliability, not to mention that it must provide the greatest degree of safety which we can possibly attain. That may mean, and probably does in nearly all cases, that the excess of power is greater than would be necessary for a freight carrier; that multiple engines are provided; that the speed is higher than would be necessary for a freight or goods carrier; and so forth. All are features which tend to lower the economy of operation.

On the other hand, a machine originally designed for carrying freight would not be expected to have the comfort, even if converted, of one designed for passenger work. One could easily go on enumerating differences in requirements of various types. A mail machine, for example, could probably be quite a small single-engined affair requiring no great internal accommodation in the matter of size, mails being fairly heavy for their bulk. Consequently one would not design a mail-carrier with a very large fuselage.

The point we wish to make is that it is wrong policy to attempt to design any one type of machine which may, after a fashion but only after a fashion, serve for a variety of purposes. The time has come, and indeed is long overdue, when we should try to do better than that, and design specifically for one particular kind of work and that only.

When Sir Samuel Hoare announced, in introducing this year's Air Estimates, that under the new agreement basis encouragement would be given to the purchase of new and more efficient types, we were glad because only along that line lies real progress. In dealing with the subject more recently in the House, Sir Samuel referred to the establishment of a more rapid obsolescence rate, but that was as far as he got, and we expressed some doubt as to the effectiveness of the new scheme. It may be that the Air Ministry and Imperial Airways between them intend to do more than is to be inferred from the official announcement on the subject. If so, we are sincerely glad. At any rate, although we have heard nothing officially about orders being placed for new types of passenger machines, we received with the greatest satisfaction the information that Vickers, Ltd., had built, for Imperial Airways, a machine

specially designed to carry goods and freight. We were even more pleased when we had an opportunity of examining the machine recently and found that our advocacy of specialised design as an aid to commercial economy was proved so very fully justified.

The Vickers "Vellore" is described and illustrated elsewhere in this week's issue, but the fact that the machine provides such an excellent example of how much can be accomplished by specialised design makes it desirable to add to the purely descriptive notes certain further considerations.

An examination of the specification at the end of the article reveals the fact that not only is the useful load a very large percentage of the total loaded weight—being, in fact, greater than the tare weight of the machine—but that the paying load per horse-power is very large, even for quite long non-stop routes.

The normal petrol capacity of the "Vellore" is 162 galls., or something like 1,150 lbs. As the total load carried is 4,950 lbs., this leaves approximately 3,800 lbs. available as paying load. The Bristol "Jupiter IX" develops 485 b.h.p. at a normal speed of 2,000 r.p.m., so that the paying load per horse-power, based on normal full power, is 7.84 lbs. per horse-power. In view of the fact that this is with full tanks, or sufficient petrol for a distance of 750 miles at full throttle, this figure is remarkable. It should be remembered that the maximum range at cruising speed is considerably greater, probably in the neighbourhood of 1,000 miles.

By way of comparison, it is interesting to note that if the petrol was reduced to merely sufficient for a short route such as the London-Paris, say 220 miles, the paying load could be increased to about 4,600 lbs., or 9.5 lbs. per horse-power. Passenger machines carry something like 3 to 3.5 lbs. per horse-power paying load on the same route, so that the justification for designing specifically for freight carrying is very complete.

Going in the opposite direction and examining how much the paying load decreases with an increase in the length of route to be flown non-stop, it is interesting to find that with a range of 1,500 miles the paying load is 2,600 lbs., or 5.36 lbs. per horse-power. A 2,000 miles range still leaves a paying load of more than 1,800 lbs., or about 3.8 lbs. per horse-power; while if we imagine the whole of the available load to be in the form of petrol, the range becomes 3,200 miles.

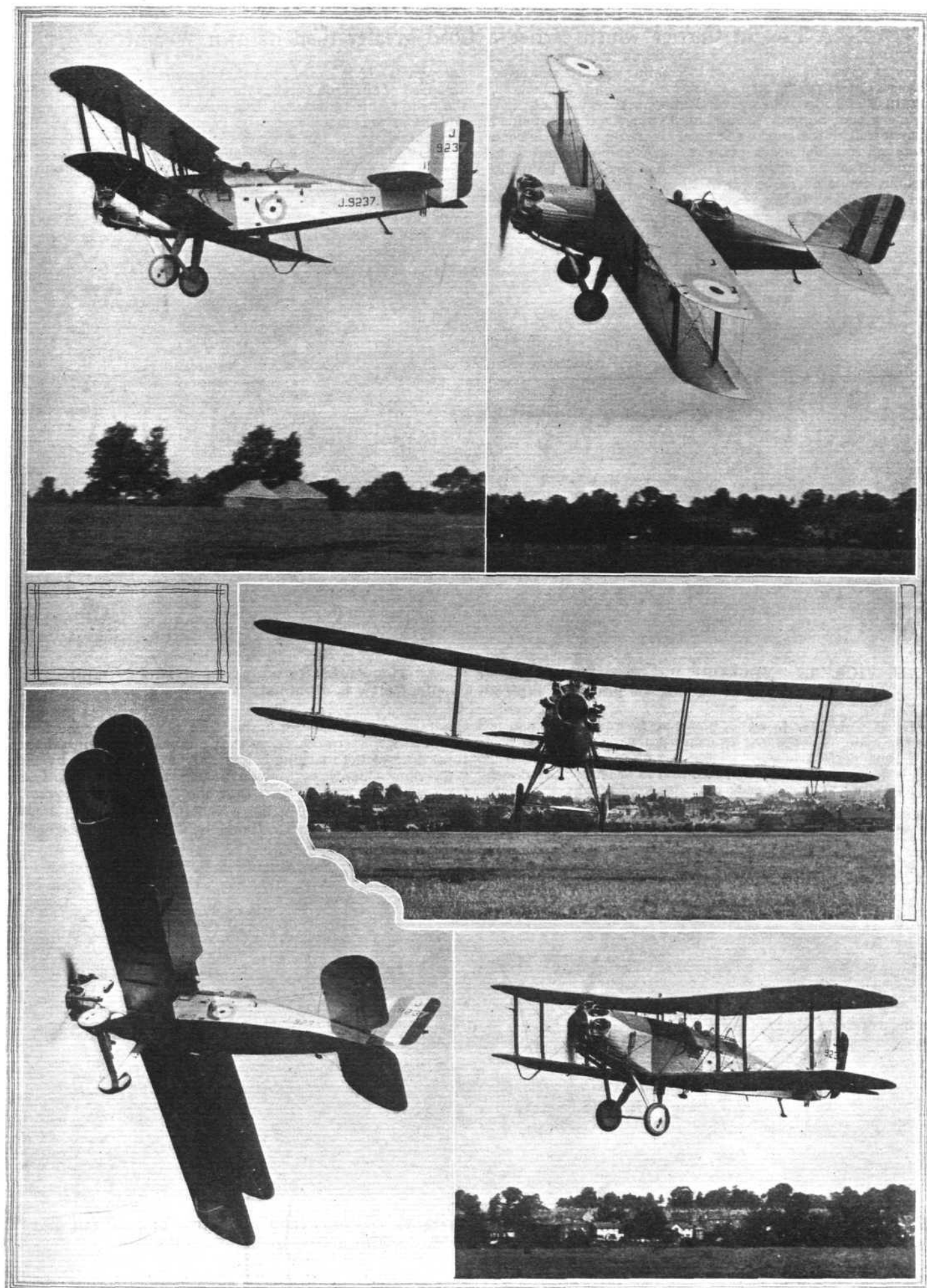
It should be pointed out that these figures are only very approximately correct. For instance, we have taken normal full-throttle conditions, and the ranges would actually be greater at cruising speed. Also, in the case of the longer distances account should, of course, have been taken of the effect of the diminishing load caused by the gradual consumption of the fuel. All these things would have the effect of giving even better figures, but those quoted will at least serve to illustrate how much can be done by designing originally for a particular purpose.

We hope the next step will be the production of a machine designed specially for carrying mails, as we believe that a very economical mail 'plane could be produced, although possibly not quite as remarkable as the "Vellore" freight carrier.

Berlin-Siberia Flight Completed

THREE German airmen, Herr Albrecht, Herr von Schroder

and Herr Eichentopf, who left Berlin on August 27, returned on September 2, from Siberia in a Junkers W 33 monoplane.



THE WESTLAND "WAPITI": Some flying views of the new General Purpose machine (Bristol "Jupiter") which was described in our issue for June 21 last.

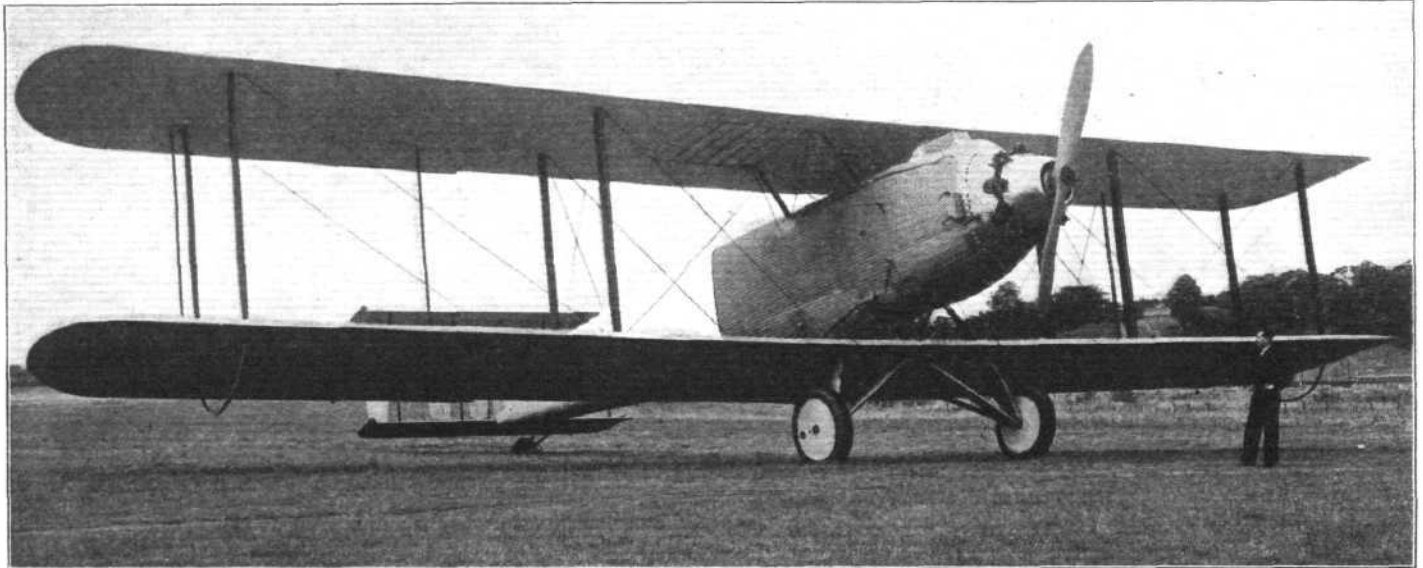
THE VICKERS "VELLORE"

A Freight Carrier which carries a Load greater than its own Weight

In many ways one of the most interesting aircraft produced in recent times, the "Vellore," designed and built by Vickers, Ltd., of Weybridge, Surrey, for Imperial Airways, Ltd., is a single-engined biplane of all-metal construction intended to carry freight and goods, a form of air traffic which has been becoming steadily more popular, and which promises to assume large proportions. Hitherto there has been no machine available designed specifically for this particular kind of work, with the result that freight and goods have had to be carried in machines not really suitable for the work. In the "Vellore," however, Mr. R. K. Pierson has

aeroplane. If it is assumed that the machine climbs at an air speed of 60 m.p.h., and as the ratio of gap to span is 0.132, the ratio of lift to induced drag corrected for the particular biplane arrangement employed is as high as 22.13 at the speed of 60 m.p.h. In other words, at that speed the induced drag is 430 lbs. only, corresponding to a thrust horse-power of 68.8, a figure which gives a good idea of the efficiency of the biplane wing arrangement of the "Vellore."

An examination of the accompanying illustrations will show that in this large biplane cellule, the fuselage itself, although of considerable actual dimensions, forms a fairly



THE VICKERS "VELLORE" : Three-quarter front view. The engine is a geared Bristol "Jupiter." From the pilot's cockpit an excellent view is obtained.

produced a machine in which high pay load per horse-power was the main object aimed at, coupled always with a reasonably good performance.

It is now a well-established fact that in order to keep down induced drag at low speeds it is necessary to have a high value of the ratio $\frac{\text{Span}^2}{\text{Weight}}$, and in the "Vellore" the span has

small percentage of frontal area, and the form is good also, with but few excrescences, so that one may assume that the total drag of the machine is low. This is borne out by the "Everling Quantities" given at the end of this article, from which it will be seen that the "High-speed figure" is as high as 24.65, a value which indicates a very small minimum drag. One may, therefore, accept it that the aero-

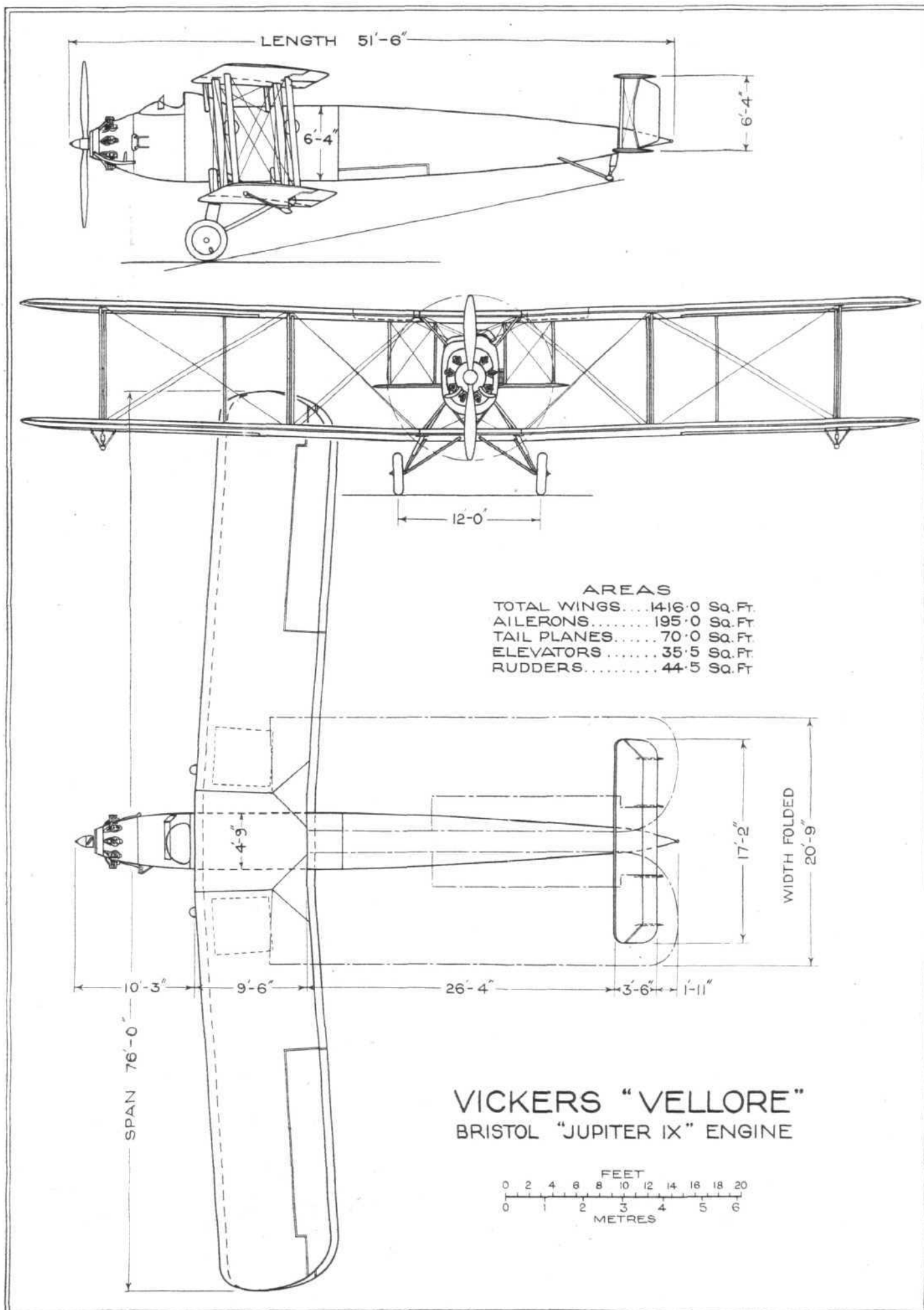


THE VICKERS "VELLORE" FREIGHT CARRIER : Three-quarter rear view. Note the biplane tail and the four rudders. The man standing next to the machine gives a good idea of the size.

been kept very large, 76 ft. to be exact, so that the induced drag at take-off speed and at the low speed at which the machine climbs is very small.

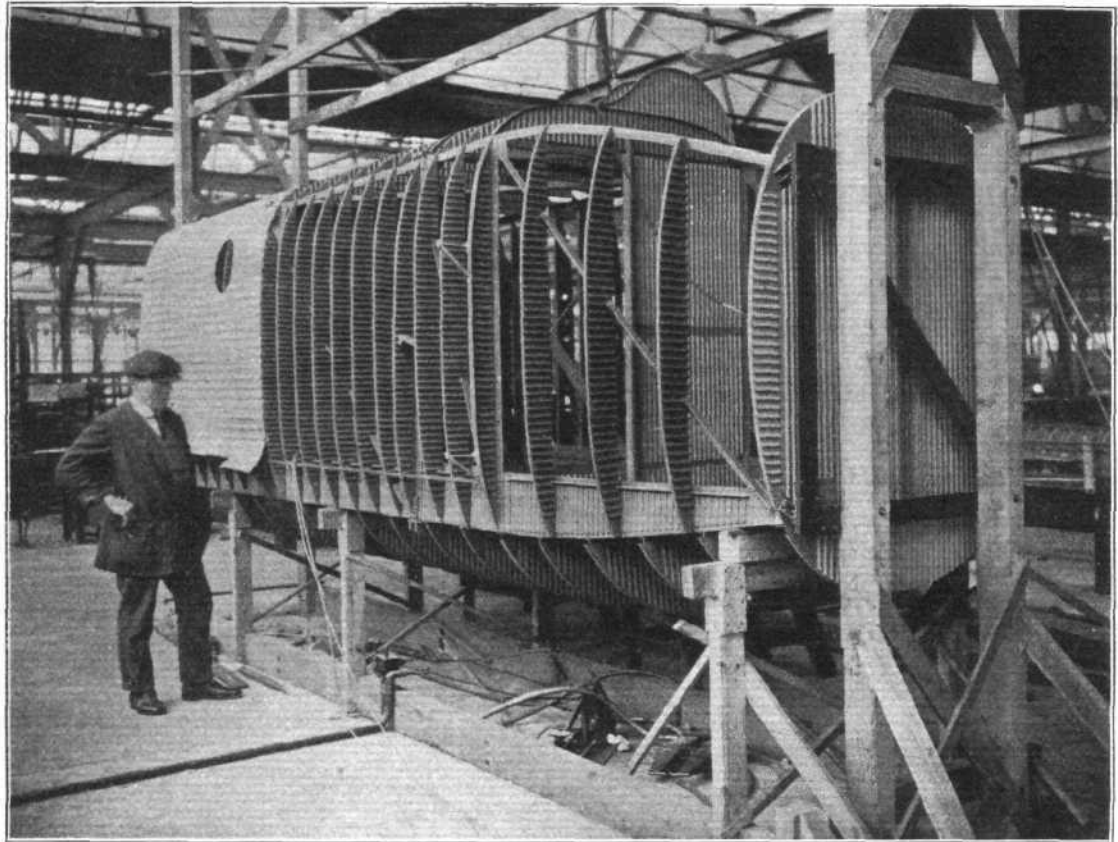
As the "Vellore" weighs 9,500 lbs. fully loaded, the value of $\frac{\text{Span}^2}{\text{Weight}} = 0.608$, which is very high for a commercial

dynamic efficiency of the "Vellore" design is very good. That the structural efficiency is also above normal is shown by the fact that the load carried is 51.6 per cent. of the total loaded weight. In other words, the machine carries a load greater than its own tare weight. The actual figures are: Tare weight, 4,550 lb.; load carried 4,950 lb.; total loaded



THE VICKERS "VELLORE" FREIGHT CARRIER : General Arrangement Drawings, to Scale.

In Course of Construction: This photograph shows the front portion of the fuselage and gives a good idea of the type of metal construction employed.



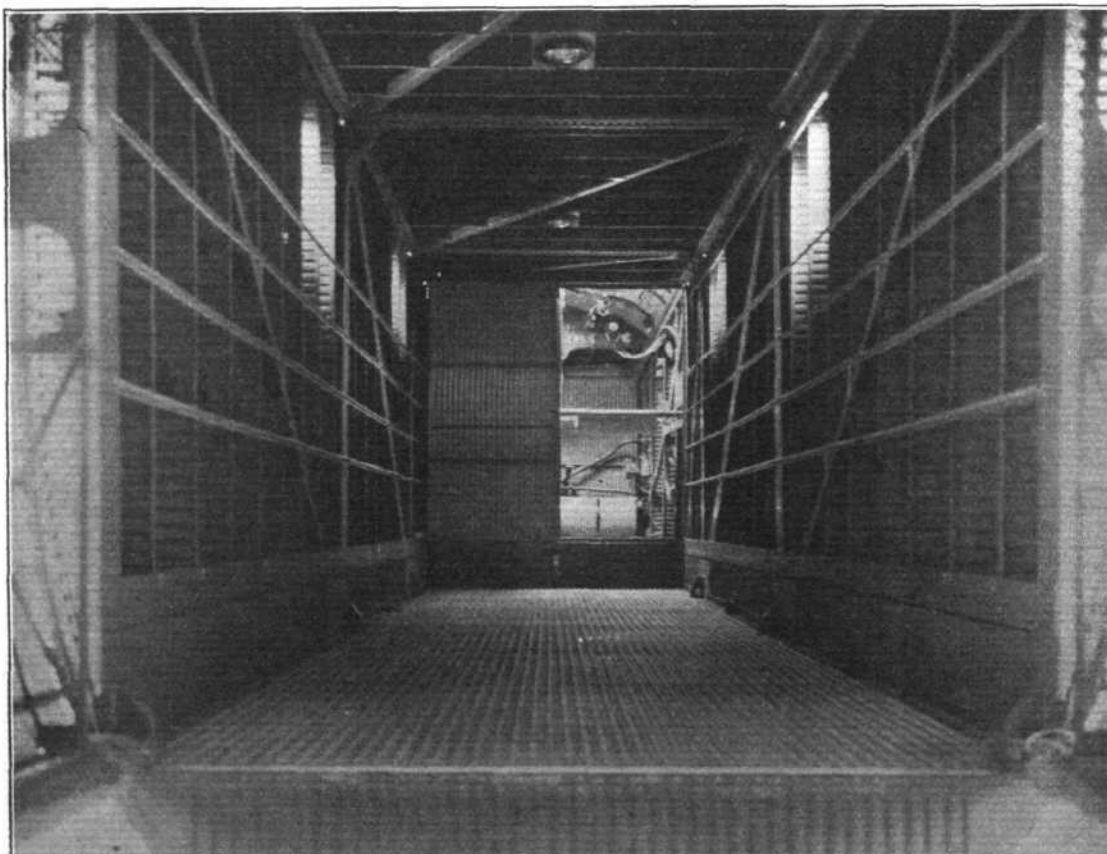
weight 9,500 lb. These figures indicate that the methods of metal construction employed by Vickers are very economical, and as Duralumin is the material employed throughout, with a few unimportant exceptions, advocates of this material for aircraft structures will find in the "Vellore" a very good proof of their contentions.

Constructional Features

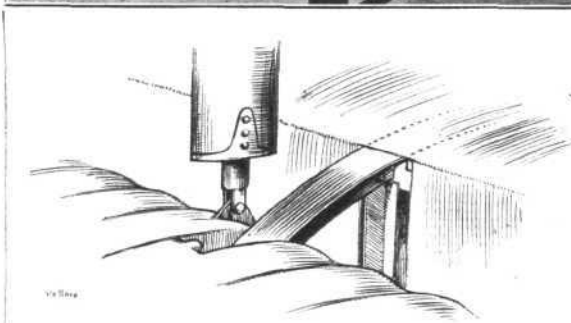
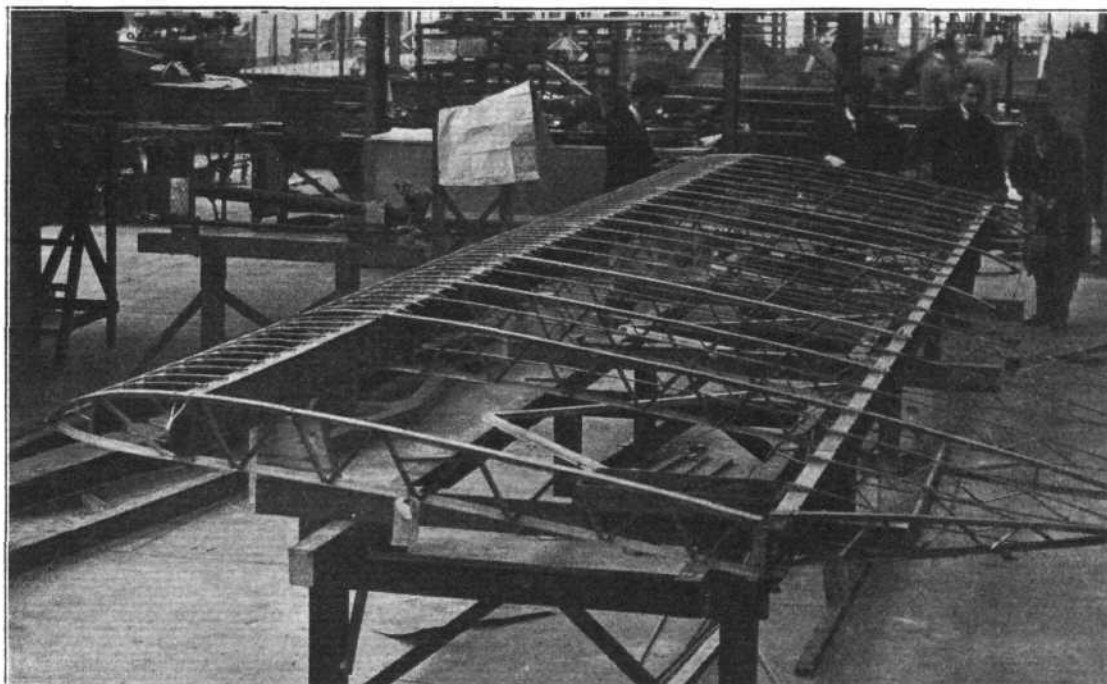
The fuselage of the "Vellore" is of Duralumin construction. It is built in two distinct portions, of which the front section is built up in the form of a metal *semi-monocoque*. Doubtless

this has been done in order to leave the luggage "hold" as free of internal bracing as possible. The rear portion of the fuselage is a girder, in which longerons and struts are circular-section Duralumin tubes, braced by tie rods. One of our sketches shows the attachment of a longeron to the *monocoque* front portion, and incidentally a good deal of the detail construction of both fuselage portions.

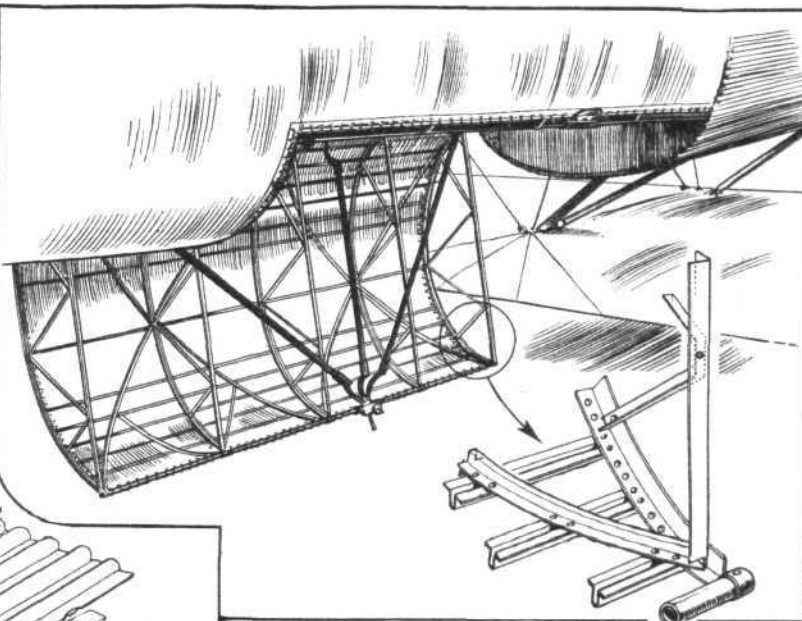
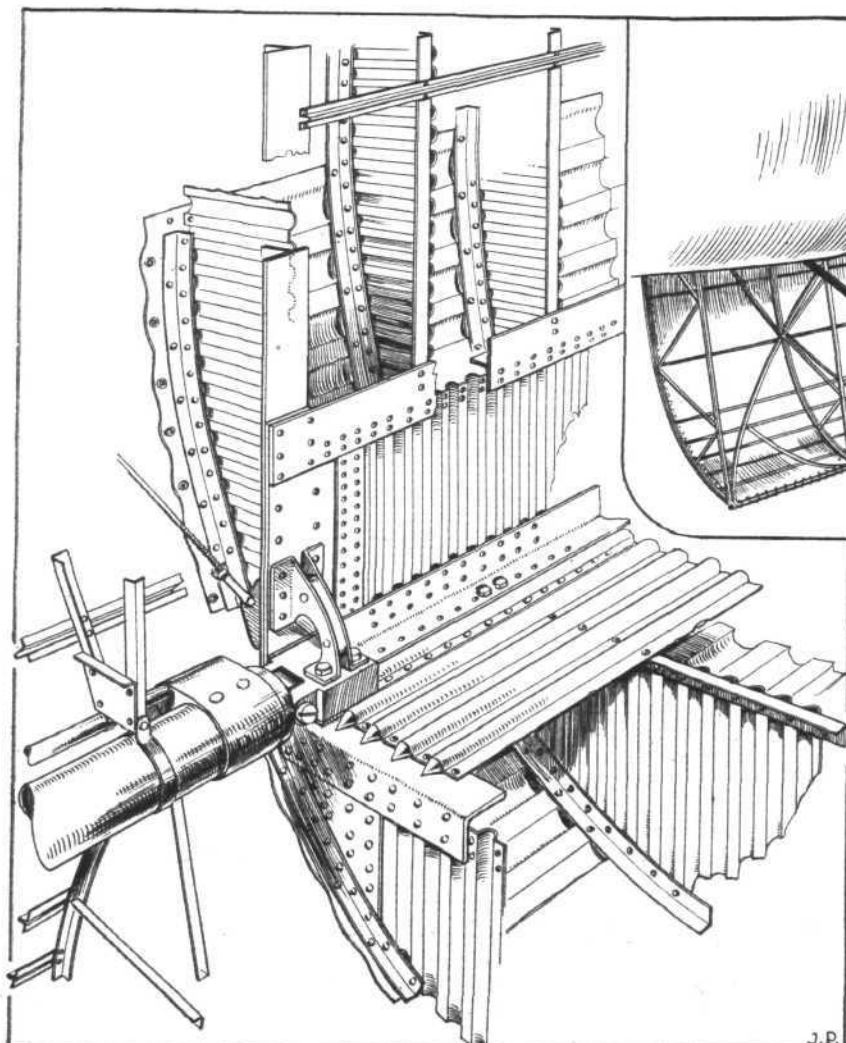
The front portion of the fuselage has two deep longerons at the bottom, built up of angle sections and corrugated walls, while the top longerons are quite light angle sections. The members corresponding to struts in a girder type of



The Vickers "Vellore": A view inside the freight "hold," looking towards the pilot's cockpit.



The Vickers "Vellore": Above, photograph of one of the all-metal wings. On left, sketch showing the type of Duralumin rib used instead of drag struts. This rib also carries the Bristol-Frise aileron hinge.



["FLIGHT" sketches

The Vickers "Vellore" Freight Carrier: These sketches show clearly the form of metal construction. On the left is the junction of the front and rear portions of the fuselage, the front portion being built up of sheet Duralumin, while the rear is a Duralumin tube girder. Note the construction of the freight hold floor. Inset is a sketch, with details, of the hinged door in the floor through which the freight is loaded and unloaded.

J.P.

construction are in the form of box-section members formed from angle sections, T-sections and corrugated strip, in the manner shown in our sketch, and also visible in one of the photographs. The covering is Duralumin sheet, longitudinally corrugated for stiffness so as to enable it to take part of the loads as a stress-bearing member. The luggage "hold" is of large dimensions and entirely without bracing members internally, so that should occasion arise, the whole of it could be used for bulky goods.

A hinged trap door in the floor of the rear portion of the fuselage gives access to the "hold," and hoisting tackle is provided inside the latter for lifting freight into the machine and drawing it along the floor, which is in the form of corrugated Duralumin sheet, very substantial and stiff.

The pilot's cockpit is in front of the freight hold, separated from it by a wall, the communicating door being on the starboard side. The pilot's seat is on the port side, behind and above the engine, and provision is made for raising and lowering the seat. In the raised position of the seat the view is remarkably good, as the pilot is then well above the engine. A short ladder of Duralumin tubing runs from the cockpit floor to the seat, and if an engineer, navigator or spare pilot is carried, this ladder folds down and forms a seat for him.

The "Vellore" is equipped with every conceivable aid to navigation, such as a turn indicator in addition to the usual instruments; wireless transmitting and receiving apparatus; night-flying equipment, and so on. In fact, for a freight carrier, the "Vellore" appears needlessly encumbered with "gadgets," but doubtless these were demanded by Imperial Airways in order that the machine might be tried out under all manner of conditions.

The engine fitted is a Bristol "Jupiter IX," which is, of course, a geared engine, the increased propeller efficiency due to the 2 to 1 gearing being particularly desirable in a machine like the "Vellore," which carries a large load per horsepower at a relatively low forward speed. The petrol tanks, with a total capacity of 162 gallons, are placed in the top plane, so that direct gravity feed is employed.

Like the fuselage the wings are of all-metal construction, with exception of the covering which is fabric. The special form of wing spar construction developed by Vickers has already been described in detail in *FLIGHT*, so that it will suffice if we recall that the feature of the spar is the "wandering web," which crosses over from front to back of spar every few inches, leaving every rivet readily accessible. This "wandering web" fits into channel section flanges at top and bottom. The ribs are also Duralumin channels, and in place of tubular drag struts stronger ribs are used, some of these being extended aft of the rear spar to form supports for the Bristol-Frise ailerons. The interplane struts are of heavy gauge Duralumin, each strut being made in two halves, the joints being along the front and rear edges of the strut, where the rows of rivets occur. In the photographs published herewith the wing tip skids are in the form of hoops. These have now been replaced by straight sprung skids of a form not unlike tail skids, and similarly sprung. This was deemed advisable in view of the low wing loading of the "Vellore," which renders the machine somewhat liable to be blown on to a wing tip when on the ground.

The tail of the "Vellore" is of the biplane type found on so many Vickers machines. It is also unusual in that no less than four rudders are used, but it will be observed that there are no fixed vertical tail surfaces. The rudders are balanced, and with the total area split up into four relatively small ones, the loads on the rudder control pedals are very light. The tail skid shoe has a castor action, which makes the machine easy to steer on the ground.

The undercarriage of the "Vellore" is of the oleo-pneumatic type, with a long travel, and the track is fairly wide in actual dimensions, although relatively small for the large wing span. Hence the special wing tip skids to which reference has been made.

Specification

The main dimensions, areas, &c., are shown on the general arrangement drawings, but some of them are repeated in the following specification for the sake of convenience.

Engine	Bristol "Jupiter IX."
Maximum horse-power ..	525 b.h.p. at 2,200 r.p.m.
Propeller drive	Geared 2:1.
Fuel capacity	162 gallons (730 litres).

Main Dimensions

Wing span (top and bottom)	76 ft. 0 in. (23.470 m.).
Wing chord (top and bottom)	9 ft. 6 in. (2.895 m.).
Total wing area (including ailerons)	1,416 sq. ft. (132 sq. m.).
Length o.a.	51 ft. 6 in. (15.695 m.).
Height o.a.	16 ft. 9 in. (5.106 m.).
Width folded	20 ft. 9 in. (6.325 m.).

Weights and Loading

Weight empty	4,550 lb. (2,064 kg.).
Load carried	4,950 lb. (2,245 kg.).
Total loaded weight ..	9,500 lb. (4,309 kg.).
Wing loading	6.7 lb./sq. ft. (32.71 kg./m. ²).
Power loading (on 525 h.p.) ..	18.1 lb./h.p. (8.21 kg./h.p.).

Performance

Speed at ground level ..	110 m.p.h. (177 km./h.).
Speed at 5,000 ft. (1,525 m.)	106 m.p.h. (171 km./h.).
Speed at 10,000 ft. (3,050 m.)	101 m.p.h. (163 km./h.).
Landing speed	50 m.p.h. (80 km./h.).
Climb to 5,000 ft. (1,525 m.)	In 10.5 minutes.
Climb to 10,000 ft. (3,050 m.)	In 29 minutes.
Service ceiling	12,000 ft. (3,660 m.).
Absolute ceiling	14,700 ft. (4,480 m.).
Range at full throttle ..	750 miles (1,210 km.).

Everling Quantities

High-speed figure	24.65
Distance figure	5.3
Altitude figure	5.8

Both the actual performance figures and the "Everling Quantities" indicate that the "Vellore" is an unusually efficient design, and it will be interesting to see how it behaves when put into practical use by Imperial Airways. That it is one of the closest approaches to a commercial aeroplane which will pay for itself that has been produced so far seems evident.

Air Progress in Germany

LUFTHANSA, the great German air combine, has issued a report which reveals that it carried 19,782 passengers in July and now owns forty-one large machines. Goods traffic carried included 123 tons of freight, 163 tons of luggage and 102 tons of postal matter and newspapers. Last year's balance sheet showed that 90 air lines were being regularly operated with 140 machines, and 102,681 passengers were carried as compared with 56,268 in 1926. Mileage flown totalled 5,721,592. Attention is being turned towards a service to South America using Rohrbach "Romar" flying-boats, three of which have already been ordered. As Germany has no Air Force to maintain it can afford to subsidise airways more generously than England can. Subventions from the Reich and several States totalled £1,150,000 last year.

Western Australian Airways

WESTERN AUSTRALIAN AIRWAYS have announced the following figures for the month of July last:—Number of flights, 89; passengers carried over regular routes, 79; passengers on taxi and joy-rides, 35; total mileage, 13,565; number of letters carried (June), 21,746; freight carried, 5,747 lbs. The company still continues to do good work in transporting medical aid to injured persons, etc. In April next W.A.A. will open the East-West service between

Perth and Adelaide—an important route for passengers, mails and freight. The following savings in time will result from surcharging mails for carriage over this new route. Mails from England will be delivered in Melbourne four days earlier than at present. Mails to England may be posted from Melbourne two days later than at present; replies to English correspondence will reach England one week earlier. The shortenings of the time required to travel across Australia by two days will result in many business men undertaking the trip. It will be possible, for instance, to leave Melbourne on Saturday afternoon, reach Perth on Monday—devoting the afternoon and evening to business—and returning from Perth the following day, arrive back in Melbourne on Thursday morning.

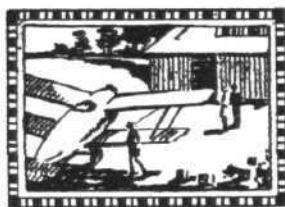
Dutch Air Mail to Batavia

AIR Mail flights from Amsterdam to Batavia will be made on September 13, 20, 27 and October 4 and 11. The machines will take the post for all Oriental towns on the route, landing at Karachi, Calcutta, Rangoon, Bangkok, Medan (Sumatra) and Batavia. Each flight will take 12 days.

Australia-England Flight

LIEUT. KEITH ANDERSON, a pilot, and Mr. Hitchcock, mechanic, are planning a flight from Australia to England in a Bristol Tourer. Their preparations have been secret.

PRIVATE



FLYING

A Section of **FLIGHT** in the Interests of the Private Owner, Owner-Pilot, and Club Member

SIMMONDS' "SPARTAN"

New Light 'Plane

As a new entry in the light 'plane market the Simmonds "Spartan" claims individual attention for certain attempts at originality. The primary objective of Mr. Simmonds, its designer, has been the adaptation of interchangeability as far as possible on the ordinary two-seater light biplane. He has succeeded in an interesting degree. All the wings are interchangeable, so is the rudder with either of the elevators, and vice versa, so is the fin with either outer section of the tail plane (which is designed in three sections) and

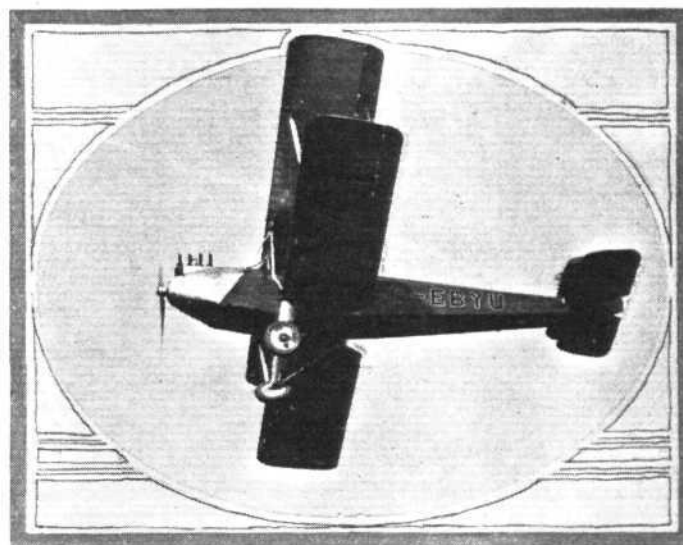


[*"FLIGHT"* Photograph

Mr. O. E. Simmonds, the designer of the Simmonds' Spartan ("Cirrus" Mk. III), who is also a qualified pilot.

vice versa, and finally, all the main bracing wires are of the same size and length.

The first machine of this type, G-EBYU, has the wings fitted with the interplane attachments on both surfaces specially to reveal the maximum reduction in performance, but on a standard machine produced on the Simmonds' system the wings would only have fittings on one side and washer plates in the usual manner on the other. This would mean an increase of three or four miles an hour in speed. In the King's Cup Race the Spartan No. 1, flown by Flight-Lieut. S. N. Webster, had not the advantage of this increase,

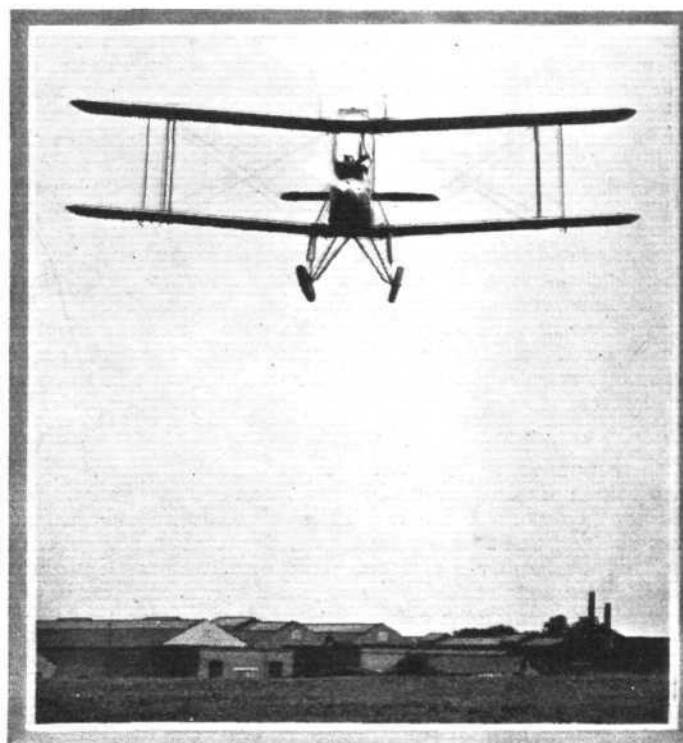


[*"FLIGHT"* Photograph

The Simmonds' "Spartan" in low flight over Croydon Aerodrome on September 3, when it was demonstrated by Mr. O. E. Simmonds and Capt. N. Stack.

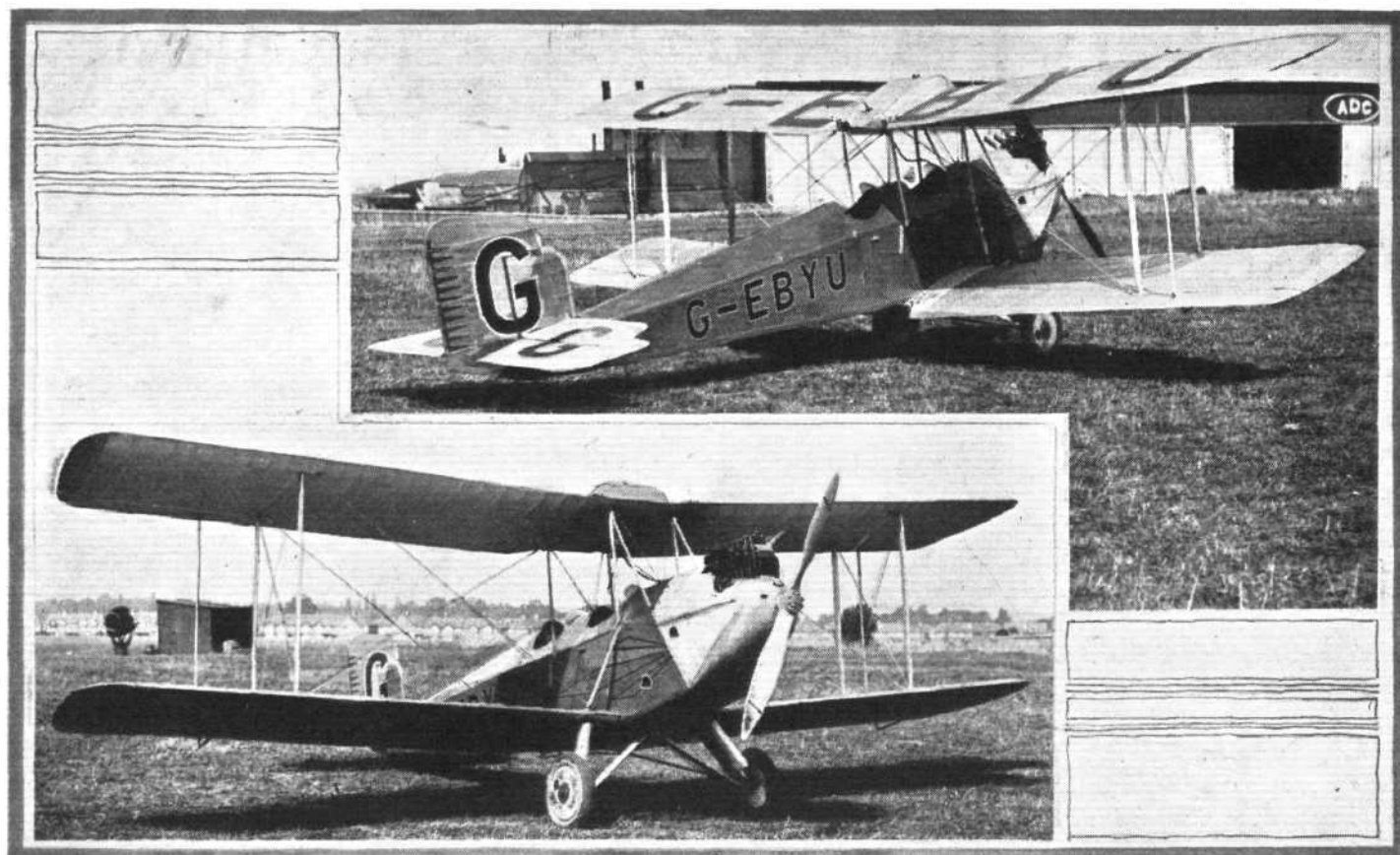
as Mr. Simmonds elected to demonstrate on a minimum rather than a maximum basis of efficiency.

The top speed of the machine has been put at 103-105 m.p.h. and stalling speed at about 37 m.p.h. With a passenger and pilot and average luggage it has been flown at 38 m.p.h. On touching the deck it pulls up very quickly. The chassis



[*"FLIGHT"* Photograph

This front view of the "Spartan" light 'plane in flight shows in particular the split axle.



["FLIGHT" Photographs

Two views of Simmonds' "Spartan" ("Cirrus" Mk. III) fitted with Fairey metal airscrew, which is distinctive for its interchangeability of wings, of rudder with elevators, and of fin with tail plane sections.

is of the split-axle type with considerable travel. There is a side entrance to each cockpit and considerable luggage space. The locker behind the pilot's cockpit can accommodate lengthy objects such as golf clubs. An A.D.C. "Cirrus Mk. III" engine has recently been installed, which has increased the performance to the figures mentioned above. A Fairey metal airscrew is fitted.

Its flying qualities have been favourably reported on by Flight-Lieut. Webster, Flight-Lieut. Swoffer, and Flying Officer H. W. R. Banting, instructor of the Isle of Purbeck Club. The latter has reported that the long-travel undercarriage prevents the machine from a premature launch by a small ridge, and through the spreading of the wheels when landing, it produces a brake effect, resulting in a quick pull up. For example, the machine was landed on the wheels only at 85 m.p.h. and came to a stop after approximately 80 yards.

The skid is connected with the rudder, which gives greater control when taxiing, and a spring in the connection between rudder and skid allows rudder control to be tested when the skid is immovable without strain on the controls. An absence of vibration is noticed in flight and the machine is light on the controls, whilst visibility from both cockpits is considered very good.

The petrol capacity is the usual 20 galls., with the tank fitted in the top centre plane. Gap struts are of steel, but wooden construction is employed generally. The wing

section is, of course, thick, and the span is 28 ft. 7 in. The machine is designed for an aerobatic certificate of airworthiness at 1,680 lbs., but the service weight is likely to be in the neighbourhood of 1,400 lbs. The wings fold back, each merely requiring a locking pin to be withdrawn. Behind a light car the Spartan has been towed at 25 m.p.h.

Production of this type is likely to follow, but one is not at liberty at the moment to speak freely of the plans. It is naturally considered by the producers that it can be produced at considerably less cost than usual. Drawing office charges can be reduced owing to the vast reduction in the number of different parts. Similarly, the cost of jigs and tools can be reduced, whilst it has already been found that in the construction much time is saved owing to none of the parts being handed.

It has been mentioned that the new Isle of Purbeck Light Plane Club may use a "Spartan" machine. Four aerodromes are to be founded in Dorset, so that the club may operate over a wide area. It is thought, too, that agricultural interests may be served in the county with the use of light planes.

On September 3 the machine was demonstrated by Mr. Simmonds and Capt. N. Stack at the Croydon aerodrome. The latter performed some very low stunting, revealing the manoeuvrability of the "Spartan" in all the conventional ways.

THE SECOND "ON TO HADLEIGH" RALLY

IN response to requests from many quarters, the Suffolk & Eastern Counties Aeroplane Club has decided to hold a second "On to Hadleigh" rally at the Hadleigh aerodrome, Suffolk, on Saturday, September 15.

The air display will start at 10 a.m. and continue until dusk. So far as the visiting pilots are concerned it is hoped to make the event more of an At Home than a serious air meeting. At the same time, a mild sporting flavour will be introduced by the "On to Hadleigh" rally and the aerial golf competition. By means of aerobatics, joy-riding, demonstration flights, and other features on the programme, it is hoped to keep the interest of the general public alive throughout the day and to increase "airmindedness" in East Anglia.

The two competitive events are as follows:—

(1) The "On to Hadleigh" Rally.—In this event visiting pilots will be required to reach the aerodrome non-

stop from their stated point of departure as near zero hour as possible; zero hour being 11 a.m. The winner will be the pilot who attains the highest number of marks when the distance of his point of departure in miles from Hadleigh has been divided by the number of minutes before or after zero hour that the machine crosses the finishing line (the road which crosses the aerodrome in an approximately north and south direction) in flight.

(2) Aerial Golf.—Competitors will be provided with three bags of flour. These must be dropped within five minutes of receiving the word "go" on the ground. The pilot whose "bomb" is dropped nearest to the target will be the winner.

All visiting pilots will be accorded a hearty welcome, and those wishing to take part in the "On to Hadleigh" rally are requested to apply as early as possible for entry forms to the Secretary, the Suffolk and Eastern Counties Aeroplane Club, The Aerodrome, Hadleigh, Suffolk.

LIGHT PLANE CLUBS

London Aeroplane Club, Stag Lane, Edgware. Sec., H. E. Perrin, 3, Clifford Street, London, W.1.
Bristol and Wessex Aeroplane Club, Filton, Gloucester. Secretary, Capt. C. F. Crawford, Filton Aerodrome, Patchway.
Cinque Ports Flying Club, Lympne, Hythe. Hon. Secretary, R. Dallas Brett, 114, High Street, Hythe, Kent.
Hampshire Aero Club, Hamble, Southampton. Secretary, H. J. Harrington, Hamble, Southampton.
Lancashire Aero Club, Woodford, Lancs. Secretary, F. W. Atherton, Woodford Aerodrome, Cheshire.
Liverpool and District Aero Club, Hooton, Cheshire. Hon. Secretary, W. F. Davison, 357, Royal Liver Building, Liverpool.
Midland Aero Club, Castle Bromwich, Birmingham. Secretary, Maj. Gilbert Dennison, 22, Villa Road, Handsworth, Birmingham.

Newcastle-on-Tyne Aero Club, Cramlington, Northumberland. Secretary, J. T. Dodds, Cramlington Aerodrome, Northumberland.
Norfolk and Norwich Aero Club, Mousehold, Norwich. Secretary, G. McEwen, The Aerodrome, Mousehold, Norwich.
Nottingham Aero Club, Hucknall, Nottingham. Hon. Secretary, Cecil R. Sands, A.C.A., Imperial Buildings, Victoria St., Nottingham.
The Scottish Flying Club, 101, St. Vincent Street, Glasgow. Secretary, Harry W. Smith.
Southern Aero Club, Shoreham-Sussex. Secretary, C. A. Boucher, Shoreham Aerodrome, Sussex.
Suffolk Aeroplane Club, Ipswich. Secretary, Maj. P. L. Holmes, The Aerodrome, Hadleigh, Suffolk.
Yorkshire Aeroplane Club, Sherburn-in-Elmet, Yorks. Secretary, Lieut.-Col. Walker, The Aerodrome, Sherburn-in-Elmet.

LONDON AEROPLANE CLUB

REPORT for week ending September 2.—Flying time, 74 hrs. 15 mins. Dual instruction, 49 hrs. 25 mins. Solo flying, 24 hrs. 50 mins.
Dual instruction: W. W. Briscoe, J. W. Boutwood, A. D. Blumlein, J. W. Radbone, J. D. M. Robinson, R. K. Koratkar, C. J. Pool, G. F. Roberts, J. R. Evans, J. Harrison, A. J. Miller, A. Courtauld, L. C. Gibbins, J. W. Chalmers, C. W. Bonniksen, G. Charles, Mrs. B. Thatcher, D. Prentice, L. R. Gaywood, Lord Douglas-Hamilton, G. N. Larden, E. Puddy.
Solo flying: P. W. Hoare, T. Elder Hearne, B. B. Tucker, E. A. Lingard, E. R. Andrews, Lord Douglas-Hamilton, K. V. Wright, P. A. Wills, W. Hart, W. L. M. O'Connor, C. E. Murrell, O. J. Tapper, G. H. Craig, G. N. Larden, Lieut. J. Robinson, Maj. K. M. Beaumont, A. F. Burns, R. Ward, W. T. Hay, G. Robson, C. W. Bonniksen.
Capt. R. S. Rattray passed the tests for his aviator's certificate on August 28, 1928.
Mr. L. J. C. Mitchell has passed the necessary tests and been granted a "B" licence.

CINQUE PORTS FLYING CLUB

REPORT for week ending August 25.—Total flying time, 3 hrs. Special journey, 1 hr.
Soloists under instruction:—Mr. Ernest Martin, 30 mins.; Mr. Skinner, 30 mins.; Mr. West, 45 mins.
"A" Licence Pilot:—Mr. Edgson Wright, 15 mins.
On Sunday, August 19, Mr. W. R. J. A. R. West, of the Guards' Depot, Canterbury, took his tests for "A" licence and passed in excellent style. This is the sixth certificate granted to members of this club since the club opened in the middle of May. As we have been working throughout with only one machine, and have consequently suffered much loss of time through delays for overhauls, etc., we are very pleased with this performance, especially as five of the members concerned had no previous experience.
On the same day Mr. Ernest Martin, a new member from London, flew solo for the first time on the club machine, although he had had previous experience during the war.
We hear that the long-awaited agreement with the Air Ministry is actually in process of being drafted, and there seems to be a reasonable hope that we shall be able to provide proper club room facilities for members within the next month.
On Sunday the machine was flown to Stag Lane for renewal of its Certificate of Air Worthiness, and we hope that it will return before next week end, looking very smart in the club colours.

HAMPSHIRE AEROPLANE CLUB

REPORT for week ending August 31.—Total flying time, 54 hrs. 50 mins. Dual instruction, 20 hrs. 45 mins. "A" Pilots, 19 hrs. 5 mins. Solo, 9 hrs. 20 mins. Passenger flights, 4 hrs. 20 mins. Tests, 1 hr. 20 mins.
Instruction (with Flight-Lieut. Swoffer and Mr. W. H. Dudley): Mr. Makgill, Cdr. Creswell, Lt. Oswald, Mr. Wills, Mr. Curtis Nuthall, Mr. Parker, Lt.-Cdr. Coveney, Mr. Goldman, Mr. Berney, Mr. Cambell, Mr. Hall, Lt. Couchman, Lt. Roskill, Mr. Brewster, Cdr. Hunt, Dr. Bowden, Mr. Buckley, Mr. Reuther, Mr. Cater, Mr. T. Martin, Mr. W. Martin, Mr. Rice-Hunt, Mr. Tobutt, Mr. Grahame Gibbs, Mr. Sturge, Miss Melvill, Cdr. Bell, Mr. Weekes, Lt. Des Graz, Mr. Richardson.
"A" Pilots: Lt. Heath, Mr. Wills, Lt. Oliver, Mr. Michelmore, Mr. Parker, Capt. Kirby, Lt. Fagan, Mr. Baynes, Mr. Jopp, F./O. Mellor, Lt. Heinemann, 2nd-Lt. Tillard, 2nd-Lt. King, Mr. Fry, Mr. Sanders Clark, Miss Grace, Mr. Scott Hall.
Soloists: Mr. Curtis Nuthall, Mr. Sturge, Mr. Watt, Mr. Goldman, Cdr. Tower, Mr. Whittle, Mr. Cambell.
Passengers: Mr. Bromley, Mr. Marshall, Mr. Sheritt, Mr. James, Mr. Elaves, Mr. Oliver, Mr. Casterley, Mrs. Gordon Smith, Mr. Halpenny, Miss Gordon Smith, Mr. Makgill, Miss Brown, Miss Dudley, Miss Melvill, Mr. Loveday, Mrs. Swoffer, Lady Heath, Sir F. Heath, Miss Molony, Mr. Pack, Mr. Pierpoint, Mrs. Badilyte, Mr. Kerry, Mrs. West, Mr. Calder, Mrs. Gough, Mr. Barnes.

We regret to record this week an accident to our first *ab-initio* lady "A" Licence pilot, Miss A. B. Grace. In coming in to land Miss Grace flew the "Avian" into a 50-ft. flagstaff, which had been erected by an individual who is apparently under the impression that this pole protects his house. The "Avian" was completely written off but by a miracle Miss Grace was not seriously injured. On the same day as the accident one of our younger members, Mr. Cambell, showed the stuff he was made of by making a successful first solo.

On Friday we had the pleasure of receiving Sir Sefton Brancker who flew down in "G-EDCA" to meet a deputation of those residents in Hamble who are apparently under the impression, to our surprise, that we do not discourage low flying. We feel sure that everyone who understands flying will realise that the low flying complained of constitutes taking off and coming in to land and that nobody is more opposed to deliberate low flying than ourselves. The opinion of the Chief Instructor and of the Secretary of some of the reports of alleged conversations that have appeared in certain Daily Journals is stated to be unprintable.

On Sunday last a welcome visitor was Captain Lamplugh, who arrived on a "Moth." We greeted him with effusion, but we regret to say that he didn't take the hint and reduce our insurance premiums. We imagine that his opinion of those who erect abnormally high flagstaffs in the vicinity of aerodromes would be interesting.

LANCASHIRE AERO CLUB

REPORT for week ending September 1.—Flying time, 26 hrs. 5 mins. Instruction, 8 hrs. 35 mins. Solo flights, 7 hrs. 30 mins. Passenger, 8 hrs. 30 mins. Tests, 1 hr. 30 mins.

Instruction (with Mr. Brown): Johnson, Cohen, Eckersley, Weale, Ashworth, Davies, R. G. Serck, Faulkner, Barlow, Taylor, S. Miss Baerlein. (With Mr. Cantrell): Faulkner. (With Mr. Scholes): Ashworth, Cohen, Barlow. (With Mr. Todd): Serck, Weale, Taylor, S. Garner, Davies, D. B. Ashworth.

Soloists (under instruction): Benson (height test), Serck, Weale. Pilots.—Tweedale, Michelson, Hall, Mills, Agar, Cohen, Meads, Nelson, Leeming.

Passengers (with Mr. Meads): Goss, Stross. (With Mr. Hall): Davies, Miss Baerlein. (With Mr. Leeming): Roberts, Miss Booth. (With Mr. Twemlow): Mrs. Twemlow. (With Mr. Elwell): Brodney, Jones, Walton, Swann. (With Mr. Cantrell): Meads. (With Mr. Lacayo): Mills. (With Mr. Agar): Peach. (With Mr. Gattrill): Thorp. (With Mr. Scholes): Turner, Rothwell, Bradley, Elwell.

Mr. Benson made a successful height test under rather difficult conditions. Mr. H. C. Todd is now established as Aerodrome Manager and Chief Instructor. Members are asked to see notices in the Club House for particulars of a competition to be held on October 6. We were very glad to welcome Mr. Jones of the Scottish Club on Sunday. This inter-club visiting seems to be something to encourage.

LIVERPOOL & DISTRICT AERO CLUB

FLYING report for week ending September 2.—Total time flown, 38 hrs. 55 mins. Dual, 26 hrs. Solo, 12 hrs. 55 mins.
Dual (with Lieut. Bentley): Mrs. Naylor, Mrs. Vernon, Mrs. Bentley, Miss Hackforth, Miss Hughes, Miss Todd, Miss Lynch. Messrs. Barber, Barker Marstrand, Reville, Naylor, Francis, Henderson, Willcox, Andrews, Allcock.
Dual (with Lieut. Allan): Mrs. Vernon, Messrs. Pixton, Perkins, Moulds-dale.
Solo: Mrs. Naylor, Miss Hackforth, Messrs. Moulds-dale, McClure, Francis, Benson, Greenhaugh, Thornton, Leete, Brooking, Henderson.
Joyrides (with Mr. Ward): Miss Keenan, Messrs. Parker, Spark, Allcock, Lyon. (With Mr. Davison): Miss Clave.
Another crop of first solos this week, Miss Hackforth, Mr. Francis and Mr. Henderson all being launched and landing without causing any excitement. Mr. Henderson took the air alone, after only 4 hours 30 mins. dual. Mr. McClure passed his R.Ae.C. tests on Thursday evening.
This week we were visited by Capt. Rimmer of the Berkshire Aviation, and also by Miss Baerlein and Mr. Hall of the Lancashire Club.
Hangar Party.—We said an official goodbye to Lieut. Bentley and his wife on Sunday evening at an Hangar Party, when we presented him with a Silver Plaque for his "Moth," and also a Drift indicator, and Mrs. Bentley with a fitted travelling case. The evening was enjoyed by all and the pyrotechnic display by some. Hangar Parties are a very good idea. One hears of a certain member being discovered seated on the ground in a perfect stranger's garden at 2 a.m., making a meal of green peas an natural!

MIDLAND AERO CLUB

REPORT for week ending September 1.—Total flying time, 41 hrs. 22 mins. Dual, 22 hrs. 30 mins.; solo, 14 hrs.; passenger, 3 hrs. 40 mins.; test, 1 hr. 12 mins.
The following members were given dual instruction by Flight-Lieut. Rose, D.F.C., and Mr. W. H. Sutcliffe:—Mr. Morris, R. L. Jackson, D. N. Khatir, C. T. Davis, W. Smith, J. W. Briggs, T. H. Drury, L. V. Mann, J. Williamson, E. D. Wynn, O. L. Richards, R. G. Welch, J. Fitzgerald, Mr. Blakeway, S. G. Hall, J. K. Morton, A. B. Gibbons, J. A. Ridsdale, J. A. V. Cook, J. W. Astley, R. B. Laidlaw, H. Beamish, Mrs. Leigh Fernor, Capt. J. C. Chaytor, Dr. W. G. Tilleke.
Soloists:—E. P. Lane, J. R. Guthrie, E. R. King, Capt. J. C. Chaytor, R. L. Baxter, J. Rowley, J. B. Briggs, R. L. Jackson, H. J. Willis, E. L. Hulme, G. Robson, G. C. Jones, O. L. Richards, S. H. Smith, R. G. Welch, R. D. Bednall, W. Swann, H. Lattey, S. G. Hall, J. Cobb, E. D. Wynn, A. B. Gibbons, M. A. Murtagh, R. B. Laidlaw.
Passenger flights given to ten members.
Messrs. R. G. Welch and R. B. Laidlaw successfully made first Solo.
Total flying time for August was 131 hrs. 13 mins. 334 flights.
On Wednesday, Flight-Lieut. Rose flew LT to Stag Lane for annual overhaul for renewal of the C. of A.

NEWCASTLE-UPON-TYNE AERO CLUB

REPORT for week ending September 2.—Total flying time, 27 hrs. 35 mins. Instruction, 10 hrs. 50 mins.; "A" pilots, 10 hrs. 30 mins.; solo training, 10 mins.; passengers, 4 hrs. 50 mins.; tests, 1 hr. 15 mins.
Instruction (with Mr. J. D. Parkinson):—Miss Yendell, Messrs. Irving, Sadler, Wilkes, Middleton, Alton, Hayton, McLean, Temple, Walker, Miss Slade.

"A" Pilots:—Mrs. Heslop, Miss Leathart, Messrs. Irving, Wilson, Runci-man, W. B. Ellis, Turnbull, C. Thompson, Percy, Todd, Dr. Dixon, Dr. Alder-son.

Solo Training:—Miss Slade.
We are pleased to report that Mrs. Irving enjoyed her first passenger trip in a Moth this week. She expressed her delight at the experience, and it would appear that the time is not far distant when Mr. J. B. Irving will have to join the ranks of private owners.

Mr. George Formby and his company, "Formby's Night Out," paid us a visit last Tuesday, when we had a busy time giving 22 joy-rides. The party afterwards had tea and truly enjoyed the outing. A forced landing competition was staged yesterday in which a dozen members competed. The honours went to Mr. Irving, after having tied with Mr. C. Thompson. Both members are to be congratulated on landing in the circle.

Mr. Walters, of Imperial Airways, called this week on an Avian on his way to Scotland.

NORFOLK & NORWICH AERO CLUB

REPORT for week ending September 2.—Total flying time, 25 hrs. 55 mins. Dual (with Mr. Young):—Messrs. H. Malcolm Smith, Mrs. Cator, C. Ransome, G. Wharton, R. Harvey, A. Kirkby, Miss Stuart Wortley, W. S. Rope, F. Rinden, C. Land.

Soloists:—Messrs. H. Pank, E. Gough, R. Potter, N. Brett, H. Cator, G. Wharton, H. Malcolm Smith, G. F. Surtees, A. V. Harvey, A. G. Marshall, D. Corsellis, E. Varden Smith, F. Rinder, A. G. Barrett, E. Costa, R. T. Harmer, C. Lincoln Sutton, C. Gowing, H. Neave. Passengers, 10.

Our distinguished visitor this week was no less a person than the "D.C.A." Air Vice-Marshal Sir Sefton Brancker, K.C.B., A.F.C., who in company with Maj. Barker Hahlo, a member, with whom he was staying, and a party of friends visited the aerodrome on Sunday afternoon. All the friends went for joy-rides, but Sir Sefton who is, of course, past that stage of aviation, was more interested in inspecting the club, which he did in his very thorough manner, expressing himself very pleased with the progress. They afterwards took tea in the club-house and later left for Langley Park.

Another visitor who we have not had the pleasure of seeing for some time was Mrs. J. Dawson Paul, who with Mr. A. Harvey flew over to Lowestoft to view the regatta from the air. They thoroughly enjoyed the trip and had the very best view possible.

Miss Stuart Wortley will be our second lady pilot. After only three lessons she shows wonderful aptitude for the "Joy Stick" control, and we are sure will make a very good pilot. Yet a third is on the horizon. This is Miss Stracey, daughter of Sir Edward Stracey, who went for her maiden flight on Sunday afternoon. She will, we believe, with parental consent, take up instruction at once.

SUFFOLK & EASTERN COUNTIES AEROPLANE CLUB

REPORT for week ending September 1.—Flying time, 15 hrs. 55 mins. Instruction, 11 hrs. 40 mins.; "A" and "B" pilots, 30 mins.; solo, under instruction, 1 hr. 35 mins.; passenger flights 1 hr. 40 mins.; tests, 30 mins.

Club for Bournemouth

A Bournemouth section of the Hampshire Aeroplane Club was formed on May 8 at a meeting held at the Town Hall, Bournemouth. Air Vice-Marshal Sir Sefton Brancker was present. The membership to-day is now nearly 50, the majority being pilot members. A machine is flown from Hamble twice a week for instruction to the local members. A subscription list has been opened to raise funds to provide a machine for the new section. The chairman is Mr. W. Grahame Gibbs and Secretary, Mr. W. H. C. Gillett.

Private Owners

THE following is a list of recent private owners as registered at the Air Ministry.

Owners	Machines	Identifica- tion Letters	Date of Regis- tration
Capt. F. E. Guest	Junkers F 13	G-EBZV	12.7.28
P. W. Hoare	Gipsy-Moth	G-EBZY	28.7.28
Capt. S. S. Halse	Gipsy-Moth	G-EBYS	23.7.28
A. P. Holt	Fokker F. VIII	G-EBZJ	4.7.28
Lord Invernairn	Beardmore "Wee Bee"	G-EBJJ	4.7.28
Sir Pyers G. J. Mostyn	D.H. "Moth X"	G-EBTH	20.7.28
Capt. R. S. Rat-tray	D.H. "Moth X"	G-EBZZ	1.8.28
J. D. Roberts	D.H. "Moth X"	G-EBZO	14.7.28
D. F. Tennant	D.H. "Moth X"	G-EBZP	14.7.28
K. Twemlow	D.H. "Moth"	G-EBLV	23.7.28
R. Whitehead	Avro "Baby"	G-EAUM	17.7.28

One or two of these owners have possessed previous machines.

Dual Instruction (with Mr. Lowdell):—Mrs. Young, Dr. Mildred Yate, Messrs. Welsh, Pettward, Ogilvie, Billinton, T. Marriage, Wedd and Croydon. Solo (under instruction):—Mr. R. Pettward.

"A" and "B" Pilots—Mr. R. Brown and Flying Officer Birt.

Bad weather has kept the flying hours down again this week.

Mr. R. Pettward carried out his first solo in a masterly manner.

We are holding another "On To Hadleigh" Rally on September 15, and shall be glad to see any members of other clubs who care to come along either by air or road.

FROM THE FLYING SCHOOLS

Henderson Flying School, Brooklands Aerodrome.

REPORT for week ending August 30.—Total flying time, 36 hrs.

Dual (with Lieut.-Col. G. L. P. Henderson):—Messrs. Austin, Moursi, Hsiao, Taylor, D'Eyncourt. (With Capt. H. D. Davis): Messrs. Austin, Banks, Taylor, Preston, Norman, Groner, Michel, Austin, Oldmeadow, Dr. Forsyth, Hsiao, D'Eyncourt, Stewart, Billimoria, Mrs. Monkton and Mrs. Scott. (With Capt. W. F. Davenport): Messrs. May, Miss Wellby.

Soloists:—Messrs. Hsiao, Daniel, Groner, Oliver, Stewart, Anderson, Hill, Allen.

Capt. Stewart accomplished his height test, reaching a record of 12,000 ft. and down again in 55 mins., thus demonstrating the extraordinary efficiency of our Renault Avros. The ceiling of this machine has not yet been ascertained.

Mr. Hill also completed his tests for his "A" Licence during the week.

Pupils are, generally speaking, expressing great delight of the quietude of Brooklands aerodrome and thoroughly appreciate the fact that there is no congestion in the air.

A number of new pupils joined during the week.

Air Meeting for Northampton

THE new Northamptonshire Aero Club, mentioned in our last issue, will hold its Aerial Pageant on September 29 at the Sywell aerodrome, Northampton. The chairman is Mr. W. Harris; Hon. Treasurer, Mr. J. T. P. Jeyes; and joint secretaries, Mr. W. G. Williams and Mr. P. G. Hayward.

Irish Tour

LADY HEATH has been touring Ireland in her D.H. "Moth." On August 30, she landed at Lahinch, co. Clare, on the strand, changed into a bathing dress in a cottage, and went for a swim. She then flew off in the direction of Galway. Many people gathered on the strand to see the first aeroplane to land there.

New Aerodrome for the North?

IT is believed that a large aerodrome is to be constructed at Thornaby-on-Tees. About 250 acres in the vicinity of Thornaby Hall have already been acquired. Local enquiry does not confirm this information yet, but there is other evidence that suggests it is true.

Hull

THE city of Hull, on the River Humber, is again turning attention to the idea of a municipal aerodrome. Col. Oldfield, a member of the City Council, has stated that he thought it is a matter which should be dealt with, and he is prepared to table a motion for the October meeting of the Council.

India to England in Four Days

CAPT. C. D. BARNARD and Mr. E. H. Alliot are attempting to fly from India to London in four days in the Fokker monoplane (Bristol "Jupiter") "Princess Xenia." They started from Karachi at dawn on September 2 and flew 1,200 miles to Bushire. They resumed the following morning for Aleppo, a distance of 1,018 miles.



THE AUTOGIRO IN THE ISLE OF WIGHT: On August 29 Don. J. de la Cierva paid a visit in the Autogiro to Seaview, I.O.W., where he landed on the sands at low tide, causing considerable interest amongst the visitors. He had tea with Mr. Wallace Barr, who was given a "flip" in the machine, and to whom we are indebted for the above snapshots.

AIRSHIPS FROM THE FOUR WINDS

Air Base for Darwin?

AIR MARSHAL SIR JOHN SALMOND reached Darwin on August 28 in the course of his Australian air tour and said that it was quite possible a considerable amount of responsibility would be thrown on Darwin by the construction of the Singapore naval base, and it was likely that an air base would be created there. Sir John Salmond completed his tour at Adelaide on September 1, having flown through the centre of the Continent from Darwin. About 4,000 miles were covered.

Governor in Air Mishap

SIR ALEXANDER HORE-RUTHVEN, V.C., Governor of South Australia, whilst flying in a D.H. "Moth," owned and piloted by Capt. Grosvenor, his aide-de-camp, was involved in a minor crash on August 29 during a tour from Government House. Both were shaken but otherwise uninjured, and the journey was continued by rail.

Italian Air Rules

AEROPLANES or airships entering or leaving Italy must now keep to one of five official routes and not deviate more than a mile and a quarter or two kilometres. The routes are via Mont Cenis, via Domodossola, via Chiasso, via the Brenner and via Longanatico Postumia. Air travellers must report for customs passports to the airports at the following aerial frontiers, Turin, Milan, Udine and Trieste. An altitude of not more than 6,000 ft. must be observed. Air approach from the sea into Italy is allowed anywhere except in prohibited areas.

Egyptian Aviation

IN Egypt civil aviation is being developed by the Government. Aerodromes are likely to be constructed at Almaza, near Cairo, and Dekhla, near Alexandria, the latter having a seaplane base and aerial lighthouse as well. The purchase of three aeroplanes for experiments is being contemplated. It is thought that the geographical situation of Egypt will lead to considerable air transport.

Atlantic Airmen Found

MR. BERT HASSELL and Mr. Parker Cramer, who disappeared while flying to Greenland from Ontario on August 18, have been found safe and well. It appears that they were blown off their course by a north-west storm off Cape Chidley, which is the extreme northerly point of Labrador, and that consequently they made their landfall in Greenland at the wrong point. Petrol ran out and they finally landed on the ice inland from Sukkertoppen, many miles short of Mount Evans, their destination. The airmen abandoned their machine, which was undamaged, and trekked over the ice-fields for a fortnight, living on pemmican, to the Mt. Evans Observatory.

Sir Philip Sassoon's Tour

A BLACKBURN "Iris" flying-boat is to be used by Sir Philip Sassoon, Under-Secretary for Air, on a cruise to the Mediterranean, which may possibly be extended to Africa or towards India. It is expected that the Blackburn "Iris" will be prepared by the end of September.

British Speed Attempt

IN approximately a fortnight's time Flight-Lieut. D'Arcy Greig will make an attempt on the air speed record at Calshot, in the Supermarine-Napier S.5. He has been in training for some time, and has finished his practice in the Gloster-Napier racing seaplane.

Air Mail Changes

THE Postmaster-General announces that the letter air mail for Holland, despatched from London every afternoon, was suspended after the despatch of September 1.

The latest times (as from September 3) of posting for the afternoon letter air mails to Belgium and Germany will be 11 a.m. at the General Post Office instead of 12.15 p.m. as heretofore.

French Light 'Plane Record

M. MAURICE FINAT established a new world's record for duration in a light 'plane on September 2 by remaining in the air for 24 hours 36 mins. In a previous attempt on August 28-29 he was up for 17 hrs. 45 mins., during which he covered 1,080 miles. His machine is a Caudron C.109 monoplane, fitted with 40 h.p. Salmson engine.

French Air Minister Killed

M. BOKANOWSKI, the French Minister for Air and Commerce, was killed on September 2 at Toul, France, when the Spad biplane in which he had just taken off crashed. M. Lefranc, of the International Aerial Navigation Company; Capt. M. Hanin, the pilot; M. Vidal, the mechanic, and M. Willins, the wireless operator, were also killed. Fire broke out after the impact and the bodies were badly burnt. Capt. Houpert, of the 21st Aviation Regiment, who was escorting the Spad in another machine, stated that engine failure resulted in a sudden loss of speed. Sir Samuel Hoare, Secretary of State for Air, asked the Air Attaché in Paris to convey the following message to Head of Direction de l'Aéronautique: "Air Council are deeply grieved to learn of deplorable accident involving death of M. Bokanowski and tender their profound sympathy." The following telegram was also sent by Sir Samuel Hoare, to His Excellency the French Ambassador: "I am profoundly grieved by the news of yesterday's deplorable accident and of the sad and irreparable loss which the French Government and French aviation have sustained in the tragic death of Monsieur Bokanowski. Your Government has my deepest sympathy and I would ask you also kindly to convey to Madame Bokanowski an assurance of my sincere condolences."

Australia-New Zealand Air Scheme

IT is reported that the Dornier-Wal flying-boat company, who are negotiating for an air service between Australia and New Zealand using Dornier-Wal flying-boats with British engines and British crews, has secured an option on the services of Mr. "Bert" Hinkler and Lieut. Ray Parker. It is also stated now that sufficient capital would be forthcoming from America if satisfactory subsidies were assured by the Dominion Governments.

Mr. Handley Page to the Rescue

A BUSINESS man from Sumatra was bathing at Westende Plage, near Ostend, on September 3 and got into danger. Another bather went to his rescue, but also got into difficulties. Then Mr. Handley Page plunged in and helped both men to shore.

German Air Record Attempt

THE two German airmen, Herren Risticz and Zimmerman, left Dessau on September 2 in a Junkers W.33 monoplane to attempt a long-distance flight record to the Far East. They were forced to land, however, in Moscow in the evening, owing to bad weather. It is not yet decided whether they shall return to Dessau to make a fresh start or go on from Moscow.

Capt. Amundsen Presumed Dead

THE Norwegian authorities have come to the conclusion that a seaplane float found drifting near Tromsø, from which Capt. Amundsen set off in the Latham flying-boat to search for the *Italia* airship party, belonged to the flying-boat and that the explorer and his five companions, who included Commandant Guilbaud, are dead. It is reported that another of the floats has been sighted in the sea, although not picked up.

French Record Flight Fails

CAPT. ARRACHART and Commandant Rignot left Le Bourget on September 1 to attempt a world's record for the longest flight in a straight line. After being in the air for 3 hours they were compelled to land at Strasbourg.

Air and Rail Service

ON September 2 a combined air and rail service was started in America. Passengers travel by rail from New York to Chicago, then fly to Minneapolis, and finally reach the Pacific coast by rail. The whole journey is reduced by 7 hrs. 20 mins. The service will run daily and other railways are contemplating similar experiments. The first passenger to use the combination was a Scotchman, Mr. R. G. Gentles.

"Queen of Diamonds" Ready

MISS MABEL BOLL, the American, is now ready in France for an attempt upon the Atlantic with her machine, a Junkers W 33 monoplane. Her pilot will be Mr. Bert Acosta. Mr. Levine, the American millionaire, who has been making the preparations in Europe, is reported to be returning by boat.

THE ROYAL AIR FORCE

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air-Force are notified:—

General Duties Branch

Squadron-Leaders: K. M. St. C. G. Leask, M.C., to No. 1 Sch. of Tech. Training (Apprentices), Hutton, 29.8.28. L. J. MacLean, M.C., to H.Q., Air Defence of Gt. Britain, Uxbridge; 1.9.28.

Flight-Lieutenants: C. H. C. Woolven, M.C., to R.A.F.M.T. Depot, Shrewsbury; 26.8.28. T. P. Y. Moore, to R.A.F. Station, Tangmere; 15.8.28. E. J. Cuckary, D.S.C., to R.A.F. Station, Worthy Down; 12.8.28. R. J. M. D. St. Leger, to R.A.F. Station, Kenley; 15.8.28. A. T. Laing, to R.A.F. Station, North Weald; 15.8.28. A. F. Scroggs, to R.A.F. Depot, Uxbridge; 17.9.28. L. Young, to R.A.F. Station, Upavon; 14.8.28. C. S. Richardson, to No. 13 Sqn., Andover; 24.8.28. J. D. I. Hardman, D.F.C., to No. 22 Group H.Q., S. Farnborough; 27.8.28. F. G. S. Mitchell, to H.Q., Inland Area, Stanmore; 17.9.28. C. S. Riccard, to No. 45 Sqn., Middle East; 11.8.28.

Flying Officers: G. H. Huxham, to No. 4 Sqn., S. Farnborough; 30.8.28. A. C. Evans-Evans, to R.A.F. Station, Upper Heyford; 24.8.28. H. I. Cozens, to R.A.F. Depot, Uxbridge; 3.9.28. R. O. Jones, to R.A.F. Depot, Uxbridge; 16.9.28. A. F. Hutton, to R.A.F. Depot, Uxbridge; 29.9.28. W. Anderson, to Armament and Gunnery Sch., Eastchurch; 15.8.28.

W. C. P. Bullock, to No. 19 Group H.Q., Lee-on-Solent; 29.8.28. R. A. A. Cole, to No. 14 Sqn., Middle East; 14.8.28. W. N. Blain, to No. 39 Sqn., Bircham Newton; 27.8.28. W. A. Andrews, to No. 41 Sqn., Northolt; 18.8.28.

Pilot Officers: The undermentioned Pilot Officers are posted to R.A.F. Depot, Uxbridge, on appointment to short service commns., with effect Aug. 24, 1928:—W. S. C. Adams, R. A. Brynon, E. J. Brighton, D. A. Craik, E. B. Grace, G. D. Hayland, R. Jones, G. S. King, J. Lewis, G. P. Longfield, S. S. MacKay, G. R. Montgomery, M. G. Parker, and S. P. Richards.

Stores Branch

Flight-Lieutenant H. T. H. Copeland, to No. 5 Flying Training Sch., Sealand; 27.8.28.

Flying Officers: R. N. Hesketh and B. G. Pool, to Home Aircraft Depot Henlow; 7.8.28.

Pilot Officers: G. Matthews, E. N. A. Crowe-Browne, M. J. Scott, L. F. Oldridge, A. W. Rule, J. S. French, E. J. H. Starling, P. Dennehy, J. W. Hunt, P. V. Edwards, H. E. Freeston, J. E. Reynolds, and F. G. Lee, to Home Aircraft Depot, Henlow; 7.8.28.

Accountant Branch

Pilot Officer M. L. Jones, to No. 2 Sqn., Manston; 27.8.28.

No. 601 County of London (Bombing) Squadron, A.A.F.

No. 601 County of London (B) Squadron have a few vacancies for skilled men in the fitting, rigging, and allied trades. There are also one or two vacancies for N.C.O.s in these trades. If any ex R.F.C. or R.A.F. N.C.O., or any skilled men in the trades referred to, wishes to make any inquiries as to joining this Squadron, he should communicate either in person or in writing to the Adjutant, Town Headquarters, No. 54, Kensington Park Road, Notting Hill Gate. This Squadron, as is well known, is run on the Territorial principle, and was one of those which did so well during the recent air exercises.

Award of Prize Cadetships. Royal Air Force.

The Air Ministry announces:—The Air Council have awarded Prize Cadetships of a value of £105 per annum for two years to the following successful candidates at the examination held in June last for entry into the Royal Air Force Cadet College, Cranwell:—

- D. R. S. Bader (St. Edward's School, Oxford).
- A. G. Cleland (Hereford High School).
- R. B. Dashper (Shaftesbury Grammar School).
- C. E. Littler (Rossall School).
- R. F. Smith (Highgate School).
- D. G. Vaughan-Fowler (Imperial Service College).

Royal Air Force Flying Accidents

The Air Ministry regrets to announce that, as the result of an accident at Abu Sueir, Egypt, to an Avro machine of No. 4 Flying Training School, Abu Sueir, on August 29, 353030, L. A. C. Sydney Charles Stevens, the pilot and sole occupant of the aircraft, was killed.

As the result of an accident at Grantham to an Avro machine of No. 3 Flying Training School, Grantham, on August 31, Pilot Officer Edward Leo Johnstone, the pilot and sole occupant of the aircraft, was killed.

As the result of an accident at Amman to a D.H.9a machine of No. 14 (Bombing) Squadron, Amman, on August 31, 335369 Sergeant Victor Robert Saunders, the pilot of the aircraft, and 335898, L.A.C. Frederick William Fletcher, were killed.

As the result of an accident near Nocton, Lincolnshire, to an Avro machine of No. 2 Flying Training School, Digby, on August 30, Pilot Officer James Graydon Riess, the pilot and sole occupant of the aircraft, was seriously injured and died in hospital on August 31, 1928.

As the result of an accident at Great Glen, near Leicester, to a D.H.9a machine of No. 605 County of Warwick (Bombing) Squadron, Auxiliary Air Force, Castle Bromwich, on September 2, Pilot Officer George Herbert Aldridge, Auxiliary Air Force, the pilot and sole occupant of the aircraft, was killed.

British Air Mail Traffic

The Postmaster-General announces that there was a steady growth of British air mail traffic during the quarter ended June last.

During the quarter nearly 14,000 lb. of parcels were sent by air to Germany, as against 9,000 lb. during the corresponding quarter of 1927, and over 6,000 lb. to Paris, as compared with 5,000 lb. Letter traffic to France and Germany showed increases of 80 per cent. and 50 per cent. respectively; while over 4,600 lb. of letter mails were despatched by the Cairo-Basra service, compared with about 3,000 lb. in the corresponding quarter of 1927, or an increase of over 50 per cent.

Since the opening of this year's summer season several new air services have been made available; the most notable instances being a new air letter service to Persia, in direct connection with the London-Moscow air service; a service in Peru for letters and parcels to Iquitos and certain other places, and the recently-established service to South America via France and Dakar. Air parcel services have also been opened to Norway, Sweden and Denmark and to Austria, Czechoslovakia and Hungary.

All these services represent a really appreciable gain in time over the ordinary routes, in some cases as much as several weeks.

The public are evidently realising that the air parcel services offer not only rapid transit, but also speedy clearance through the Customs in the country of destination.

PUBLICATIONS RECEIVED

Aeronautical Research Committee Reports and Memoranda: No. 1149 (Ae. 316).—Variable Density Wind Tunnel: Report of the Scale Effect Panel. June, 1927. Price 4d. net.

No. 1152 (M. 55).—Stresses in a Plate Bounded by a Hyperbolic Cylinder. By A. A. Griffith. January, 1928. Price 9d. net. H.M. Stationery Office, Kingsway, London, W.C.2.

Researches on Springs.—3. Torsional Fatigue Tests on Spring Steels. Department of Scientific and Industrial Research. Engineering Research Special Report No. 9. H.M. Stationery Office, Kingsway, London, W.C.2. Price 1s. net.

NEW COMPANY REGISTERED

AVIATION AND AGENCIES, LTD., 356, Gray's Inn Road, W.C.1.—Capital £3,500, in 3,000 8 per cent. participating preference shares of £1 each, and 10,000 ordinary shares of 1s. each. Objects: to manufacture, operate, hire or deal in aeroplanes, airships, etc.; to survey and to prepare maps or plans, etc. First directors, J. R. C. Badham, C. F. M. Chambers.

AERONAUTICAL PATENT SPECIFICATIONS

(Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.)

APPLIED FOR IN 1927

Published September 6, 1928

- 11,951. R. P. PESCARA. Means for driving sustaining helices for aircraft (295,302)
- 12,055. H. W. FRANKLIN. Metal trusses for aircraft, etc. (295,304.)
- 12,231. GLOSTER AIRCRAFT CO., LTD., H. S. HELE-SHAW and T. E. BEACHAM. Hydraulically-operated variable pitch airscrews. (295,248.)
- 13,215. DOUGLAS MOTORS, LTD., and C. G. PULLIN. Spring-retaining washers for poppet-valves. (295,212.)
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- 17,471. N. MACMILLAN and M. E. A. WRIGHT. Provision of hydroplanes on sea-going aircraft. (295,255.)

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